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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/902,133	07/29/97	FORBES	L 303.356US1

MM21/0315

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EXAMINER	
WALLACE, V	
ART UNIT	**PAPER NUMBER**
2815	

DATE MAILED: 03/15/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 08/902,133	Applicant(s) Forbes et al.
	Examiner Valencia Martin Wallace	Group Art Unit 2815

☒ Responsive to communication(s) filed on *12/9/98 and 1/12/99*.

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-20 and 27-32* is/are pending in the application.

Of the above, claim(s) *30 and 31* is/are withdrawn from consideration.

☒ Claim(s) *19, 28, 29, and 32* is/are allowed.

☒ Claim(s) *1-18, 20, and 27* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *4, 5, 7, 8*

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Election/Restriction

Newly submitted claims 30 and 31 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The inventions are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case unpatentability of the product invention would not necessarily imply unpatentability of the process of using invention, since the product invention could be used in a materially different processes of using that product, for example by hot electron injection or Fowler-Nordheim tunneling.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 30 and 31 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Information Disclosure Statement

The information disclosure statement filed March 23, 1998 fails to comply with 37

CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the prior art document Suzaki et al. , Abstracts of papers Published in the Int. J. Japanese Soc. For Precision Engineering, 28, vol. 60, has not been considered.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-5, 7-14, 16-18, 20 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Forbes (U.S. Patent No. 5,740,104), of record, for the same reasons discussed in the Office Action mailed September 3, 1998.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forbes in view of Aoyama et al. (U.S. Patent No. 4,507,673), of record, for the same reasons discussed in the Office Action mailed September 3, 1998.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5, 7-14, 16-18, 20 and 27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 5,801,401. Although the conflicting claims are not identical, they are not patentably distinct from each other because both U.S. Patent No. 5,801,401 and the presently pending claims disclose a transistor having:

a source region;

a drain region;

a channel region between the source and the drain;

a floating gate, provided as a storage electrode, separated from the channel region by an insulator, wherein the floating gate is formed of amorphous silicon carbide; and

a control gate.

The fact that applicant has recognized another advantage which would flow naturally from

following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Response to Arguments

Applicant's arguments filed December 9, 1998 have been fully considered but they are not persuasive.

Rejection under 35 U.S.C. §102(e)

Applicant argues that Forbes at col. 3, lines 29-37 fails to disclose a limited barrier energy less than approximately 3.3 eV and thus fails to distinguish over the presently pending claims.

While the Examiner agrees that Forbes does not specify a limited barrier energy less than approximately 3.3 eV, the reference does disclose the use of a floating gate formed of SiC which, in the device discloses, will inherently produce the barrier energy disclosed in the presently pending claims. Applicants are reminded of In re Swinehart 169 USPQ 226 (CCPA) which states that there is nothing intrinsically wrong with defining something by what it does rather than by what it is; mere recitation of newly discovered function or property, inherently possessed by thing in prior art, does not cause claim drawn to those things to distinguish over prior art. PTO possesses authority to require Applicant(s) to prove that subject matter shown to be in prior art does not possess [functional] characteristic [Applicant] relies on.

In re Echerd 176 USPQ 321 (CCPA) repeats Swinehart, above.

Rejection under 35 U.S.C. § 103(a).

Applicant argues that "neither claim 6 nor claim 13 provide for a gate insulating layer of silicon carbide."

The Examiner would like to specify a typographical correction in the previous Office Action. The 35 U.S.C. § 103(a) rejection is to claims 6 and 15. Both claims 6 and 15 limit the insulator to a material composition that obtains a larger electron affinity than silicon dioxide. Silicon carbide is such a material.

Response to Amendment

The cancellation of claims 21-26 and the addition of claims 28-32 in the amendment received December 9, 1998 are acknowledged.

Allowable Subject Matter

Claims 19, 28, 29 and 32 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the prior art references fail to teach, disclose or suggest, either alone or in combination, a memory device having an intergate dielectric formed between a control gate and a floating gate, wherein the intergate dielectric has a permittivity higher than a permittivity of silicon dioxide.

Conclusion

Applicant's submission of an information disclosure statement under 37 CFR 1.97© with the fee set forth in 37 CFR 1.17(p) on December 9, 1998 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 609(B)(2)(I). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Valencia Martin Wallace whose telephone number is (703) 308-4119. The examiner can normally be reached on Monday - Thursday from 8:00 a.m. to 5:00 p.m. The fax phone number for this Technology Center is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Valencia Martin Wallace
Primary Examiner
Technology Center 2810

Martin Wallace
March 4, 1999